

REMARKS

The present invention relates to a paving block for use with the construction of a paved surface for bearing wheeled traffic. The paving block includes an upper surface, lower surface and lateral surfaces extending between the upper and lower surfaces.

A substantial portion of at least two lateral surfaces of the paving block are tapered along the entirety of their edge at an angle of less than 15°. Additionally, at least one of the lateral surfaces has a shallow channel wider than it is deep which extends from the upper surface and to the lower surface. This channel is positioned so that, when the block is placed in abutting contact with another block, upwardly open gullies formed by the two facing tapered surface portions together with facing shallow channels provide effective drainage for the paving block.

Claim 1 and claim 8, i.e. both of the independent claims in this application, have been carefully amended to more clearly define Applicant's invention. Specifically, both claims have been amended to not only clearly define that the drainage channels formed by the facing shallow channels are wider than they are deep, but also to clearly define that the tapered surface along the top edges of the block is less than 15°. This particular construction has several advantages.

Specifically, the tapered surface portions serve the dual purpose of allowing some flexing of the underlying substrate without the risk of spalling of the blocks which are laid side by side with no intervening material. Secondly, the tapered surface along the upper edge of the paving block serves to form a relatively deep horizontal gully between two adjacent blocks with a relatively steep incline. This horizontal gully thus assists in the rapid drainage of water through the vertical drainage passages formed by the facing shallow channels along the sides of the paving blocks.

The provision of the shallow channels, i.e. channels that are wider than they are deep, also facilitates the drainage of water by providing a relatively large cross-sectional area in which there is at least one small dimension to avoid entrapment of heels, particularly women's high heel shoes, walking canes and the like. These shallow channels also ensure that there is no loss of strength in the sidewalls of the blocks when placed side by side with each other with no intervening mortar or grout between them.

Claims 1 and 8, i.e. the independent claims in this application, have been amended to incorporate the limitations of previously submitted claim 3 together with additional limitations to more clearly define Applicant's invention over the prior art references of record. The Patent Examiner, however, has rejected previously submitted claim 3 as unpatentably obvious under 35 USC §103 over U.S. Patent No. 572,762 to Landers. As discussed below, Applicant respectfully submits that, in view of the amendments made to the claims in this application, this basis for rejection can no longer stand.

The Landers patent admittedly discloses a paving block construction in which the paving block includes both an upper tapered surface 3 along each side of the block as well as vertically extending channels 8 formed through the block. However, unlike Applicant's invention, there is absolutely no suggestion that the upper tapered surface 3 of Landers is less than 15°. Rather, from the drawing, it appears to be closer to the range of about 45°.

The Patent Examiner, however, has suggested in his Office Action that it would be obvious to modify the taper of Landers to be less than 15° as required by previously submitted claim 3 and now claims 1 and 8. Applicant, however, respectfully disagrees with the Patent Examiner.

More specifically, Applicant's provision of the taper of less than 15° has several advantages, i.e. rapid drainage of water, anti-spalling of the block in the case of movement of

the substrate, as well as providing relatively thin openings which minimize the risk of entrapment of walking canes, heels of shoes and the like. In view of these advantages, if it were obvious for Landers to have provided the sharp taper of the block in the fashion described in the instant application and now positively defined in the claims, then Landers would have done so. In any event, there is absolutely no motivation in the Landers reference to modify this upper taper in the fashion now set forth in Applicant's claims. Motivation, of course, cannot be provided through hindsight obtained by reading of the instant application.

Claims 1 and 8 further differ from Landers in that both claims define the facing channels formed along the sides of the block as being wider than they are deep. This again provides a relatively wide cross-sectional area for rapid water drainage through the channels while again minimizing the possibility of entrapment of heels, walking canes and the like within the channels.

For all the foregoing reasons, Applicant respectfully submits that claims 1 and 8 patentably define Applicant's invention over the Landers patent.

Although the Patent Examiner has only rejected claim 3 as unpatentably obvious over Landers, the remaining prior art relied upon by the Patent Examiner in his rejection of the other claims in this case will be discussed for completeness.

The Patent Examiner has also combined U.S. Patent No. 5,797,698 to Barth et al. with Landers in his rejection of claim 5. The Barth et al. patent, however, does not overcome the shortcomings of Landers. First of all, there is absolutely no suggestion in the Barth et al. patent that the upper surface of the paving blocks are tapered at an angle of less than 15° and this aspect of Applicant's invention is now clearly defined in all of the claims. Furthermore, the entire thrust of the Barth et al. patent is that the vertically extending channels formed along the sides of the paving block do not register with corresponding vertically extending

channels on the adjacent block. This, of course, is exactly the opposite from Applicant's invention. Indeed, to modify the Barth et al. patent so that the vertically extending channels along the sides register with the corresponding channels on the adjacent block would be entirely contrary to the teachings of Barth et al. A modification to a prior art reference which renders it unsuitable for its intended use cannot, by definition, be obvious.

British Patent No. 2,227,775 to Jones et al. adds little to Landers. The Jones patent teaches neither the upper tapered surfaces having an angle of less than 15° nor does it teach the registering channels formed along the adjacent sides of the paving block. Both of these features, furthermore, are clearly defined in all of the claims of this case.

Lastly, U.S. Patent No. 5,980,155 to Jones et al. has been cited by the Patent Examiner solely for its teaching of a porous material. As such, it does not pertain to claims 1 and 8, as amended.

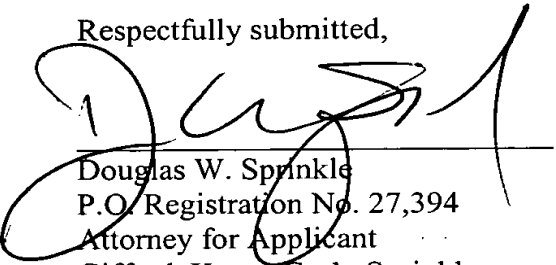
The Patent Examiner has rejected claim 10 under 35 USC §112 and has also objected to the drawing for failing to show the feature of claim 10. Claim 10, however, has been canceled by this amendment thus overcoming both the drawing objection and the rejection of claim 10 under 35 USC §112.

In conclusion, none of the prior art references of record either teach or suggest Applicant's invention as it is now defined in claims 1 and 8. Accordingly, Applicant respectfully submits that claims 1 and 8 are allowable over the prior art references of record. All remaining claims in this application depend from either claim 1 or 8 and are, therefore, also allowable.

In view of the foregoing, Applicant respectfully submits that this case is now in condition for formal allowance and such action is respectfully solicited.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned “Version with Markings to Show Changes Made.”

Respectfully submitted,



Douglas W. Sprinkle
P.O. Registration No. 27,394
Attorney for Applicant
Gifford, Krass, Groh, Sprinkle,
Anderson & Citkowski, P.C.
280 N. Old Woodward, Suite 400
Birmingham, MI 48009
(248) 647-6000

DWS/gs

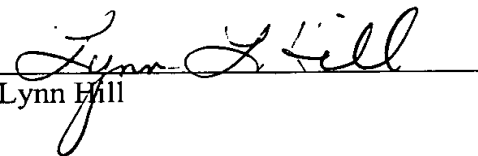
GS-W:\Word Processing\dws\BKR21102-amd.doc

CERTIFICATE OF MAILING BY “EXPRESS MAIL”

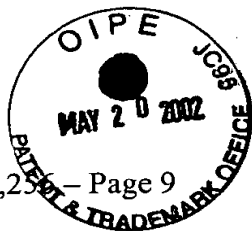
“EXPRESS MAIL” MAILING LABEL NUMBER EV063792986US

DATE OF DEPOSIT May 20, 2002

I hereby certify that this paper or fee (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service “Express Mail Post Office To Addressee” Service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, Washington, D.C. 20231.



Lynn Hill



VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 1 has been amended as follows:

1 1. (Amended) A paving block for use in the construction of a paved
2 surface for bearing wheeled traffic, which paving block has an upper surface, a lower
3 surface and [side and end] lateral surfaces extending between the upper and lower
4 surfaces and contacting in use at least part of a lateral surface of at least one adjacent
5 paving block, [wherein] a substantial portion of at least two lateral surfaces of the
6 paving block extending to the upper surface [are] being tapered along the entirety of
7 the edge between the upper surface and the lateral surface, [and] wherein at least one
8 of the lateral surfaces has a shallow channel [providing communication] wider than it
9 is deep extending from the upper surface to the lower surface and so positioned as to
10 form, when the block is placed in abutting [control] contact with another such block
11 in use thereof, upwardly open gullies formed by two facing tapered surface portions,
12 and narrow slot-like drainage passages formed by two facing shallow channels,
13 wherein the angle at which the tapered portion extends with respect to the remaining
14 portion of the lateral surface is greater than 0° and less than 15°.

Claims 3 and 5 have been canceled.

Claim 8 has been amended as follows:

1 8. (Twice Amended) A paving surface for the management of rainwater,
2 floodwater or liquid spillage having a permeable layer on a supporting substrate layer,
3 which supporting substrate layer is permeable to liquid and is of particulate material

4 providing interstitial cavities for receiving rainwater, floodwater or spillage draining
5 through the permeable layer, wherein the permeable layer is constructed at least
6 partially by the close-fitting without joint filling of a plurality of paving blocks,
7 wherein said paving blocks have an upper surface, a lower surface and [a side and
8 end] lateral surfaces extending between the upper and lower surfaces and contacting
9 in use at least apart of a lateral surface of at least one adjacent paving block, [wherein]
10 a substantial portion of at least two lateral surfaces of the paving block extending to
11 the upper surface [are] being tapered along the entirety of the edge between the upper
12 surface and the lateral surface, [and] wherein at least one of the lateral surfaces has a
13 shallow channel [providing communication] wider than it is deep extending from the
14 upper surface to the lower surface and so positioned as to form, when the block is
15 placed in abutting [control] contact with another block in use thereof, upwardly open
16 gullies formed by two facing tapered lateral surface portions, and narrow slot-like
17 drainage passages formed by two facing shallow channels, wherein the angle at which
18 the tapered portion extends with respect to the remaining portion of the lateral surface
19 is greater than 0° and less than 15°.

Claim 10 has been canceled.

New claims 17-19 have been added.